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Date submitted to ChemRisk/Shonka and DOE 8/1/96
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RADIOACTIVITY ANALYSIS
REPORT - 1959-1961
(WATER AND MUD)

Carbide and Carbon Chemicals Corporation Operating Contractor for the U.S. Atomic Energy Commission.

This document has been approved for release to the public by: The same of the public by:

Technical Information Officer
Oak Ridge K-25 Site

File No. K-1004-B-114, RC

Issued 1-3-62

Type of Sample Mater

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-361W	<u>±</u>	25,786 <u>+</u>	Per 100 ml.
	±	±	
	±	<u>+</u>	
	<u>±</u>	±	
	± 	<u>±</u>	
	<u> </u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	<u>+</u>	<u>+</u>	
	±	±	
	<u>±</u>	<u>+</u>	
	· <u>±</u>	<u>+</u>	
	<u>+</u>	<u>+</u>	
	<u>+</u>	±	
	±	±	
	±	<u>±</u>	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	<u>+</u>	±	
	±	±	
	±	±	
	<u>±</u>	±	

- The limit of error at the 95% certainty level has been estimated from the precision of control samples.
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- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.



APPROVED: <u>AR. Flynn</u>

-2-

File No	<u> </u>	4-B-114, RC	
	12-22		
	Sample		

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
PX-360 H	±	44,844 <u>+</u>	Per 100 ml.
	<u>±</u>	±	
	±	±	
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	<u></u>	±	
	<u>±</u>	±	
	<u>+</u>	±	
	<u>±</u>	±	
	±	<u>+</u>	
	±	<u>+</u>	
	. ±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	±	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>+</u>	
	<u>+</u>	±	
	±	<u>+</u>	
	±	±	
	<u>±</u>	±	

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File	N _o		004-B-114,	RC	4
Issue	-	72	6 - 61		
		Sample	Hater		

TO: _ Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-359 W	<u>±</u>	51,221±	Per 100 ml.
	±	<u>+</u>	
	<u>+</u>	±	
	<u>±</u>	<u> </u>	
	<u>±</u>	±	
	<u> -</u>	<u>+</u>	
	±	±	
	±	±	
	<u>±</u>	<u> </u>	
	±	± 	
	İ	<u>±</u>	
	· ±	<u>+</u>	
	±	<u>±</u>	
	<u>+</u>	Ė	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	<u> </u>	<u>±</u>	
	±	<u></u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	<u> </u>	
	±	±	
	±	±	
	±	<u> </u>	

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APPROVED: A.R. 7 lynn

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-4-

File No	. <u>K-1004</u>	-B-114, I	₹C
Issued	11-27-	61	
Type of	Sample	Water	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-358W	<u> </u>	142,594	Per 100 ml.
	<u></u>	±	
	=	<u>±</u>	
	=	<u>±</u>	
	=	<u>±</u>	
	=	±	
	<u>÷</u>	<u>±</u>	
	<u></u>	±	
	<u> </u>	<u>+</u>	
	Ė	<u>+</u>	
	±	<u>±</u>	
	· ±	<u>+</u>	
	±	±	
	<u> </u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	±	<u>+</u>	
	±	<u>±</u>	
	±	<u>+</u>	
	±	<u>†</u>	
	±	<u>+</u>	
	±	<u>†</u>	
	±	±	

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APPROVED: a R Hymn

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File No.	K-1004-	-B-114,	RC	
Issued	11-10-6	5l		
Type of		Water		

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
17-01 EP-357V	<u>±</u>	89,47 <u>8</u>	Per 100 ml.
	±	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u>+</u>	
	±	<u>±</u>	
	±	±	
	±		
	±	±	
	<u>±</u>	<u>±</u>	
	· ±	<u>+</u>	
	±	<u>+</u>	
	<u>±</u>	<u>+</u> ±	
	±	<u>±</u>	
	±	<u> </u>	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	± .	±	
	± ±	± ±	

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APPROVED: a.R. 7 Gmm

File No.	K-100 ¹	+-B-114,	RC
Issued_	11-2-6	51	
Type of			

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-356 W	<u>+</u>	8802 ±	Per 100 ml.
	±	<u>+</u>	
	±	±	
	<u>+</u>	<u>±</u>	
	±	±	
	<u>+</u>	+	
	土	<u> </u>	
	±	<u>±</u>	
	<u>±</u>	<u>+</u>	
	±	, <u>+</u>	
	<u>±</u>	<u>±</u>	
	· ±	<u>+</u>	
	<u>±</u>	<u>+</u>	
*	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>+</u>	
	±	<u>+</u>	
	±	±	
	±	<u>+</u>	
	±	<u>±</u>	
;	±	±	

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APPROVED: AR Flynn

File No. K-1004-B-114, RC 10-25-61 Issued ____ Type of Sample Water

Mr. Becher TO:

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
P-355 W	±	8313 ±	Per 100 ml.
	<u>÷</u>	±	
	<u> </u>	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	+	
	±	±	
	±	±	
	<u>±</u>	±	
	<u>+</u>	±	
	±	<u>+</u>	
	· ±	<u>+</u>	
	土	<u>±</u>	
	<u>+</u>	Ė	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	土	<u>+</u>	
	<u>±</u>	<u>±</u>	
	±	±	
•	<u>+</u>	±	
	±	<u>±</u>	
	±	<u>+</u>	

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APPROVED: AR Flynn

File No. K-1004-B-114, RC

Issued October 17, 1961

Type of Sample Water

TO. Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
IP-354 W	±	23,934	Per 100 ml.
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	Ė	±	
	<u>±</u>	±	
	±	<u>±</u>	
	±	<u>‡</u>	
	±	±	
	<u>+</u>	<u>±</u>	
	· ±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	±	
	<u>.</u> 	<u>+</u>	
	, <u>±</u>	<u>+</u>	
	±	<u>±</u>	
	<u>+</u>	<u>+</u>	
	<u> </u>	±	
	±	±	
	±	±	
	<u>+</u>	±	

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APPROVED: AR Flynn

-8-

File No.	K-1004-B-114, RC	
Issued	10-12-61	
Tune of		

TO: _Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP 353 V	<u>±</u>	87,719 _±	Per 100 ml. water
	±	±	
	±	<u> </u>	
	<u>±</u>	<u>+</u>	
	=	<u>±</u>	
	<u> </u>	+	
	土	<u> </u>	
	+	±	
	<u>+</u>	<u>+</u>	
	± ±	4	
	±	<u> </u>	
	<u> </u>	+	
	<u>+</u>	<u>+</u>	
	<u>+</u>	<u> </u>	
	<u>±</u>	<u>±</u>	
	<u>÷</u>	±	
	<u>±</u>	<u>±</u>	
	± ±	± ±	
	±	<u> </u>	
	<u> </u>	±	
	±	±	
	±	<u>+</u>	

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-9-

APPROVED: a R Hynn

K-1004-B-114, RC File No._ 10-5-61 Issued____ Type of Sample Mater

Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-352 W	<u>+</u>	2598 ±	Per 100 ml.
	<u>+</u>	<u>+</u>	
	±	<u>+</u>	
	±	<u>±</u>	
	±	<u>±</u>	
,	4	<u>±</u>	
	±	<u>+</u>	
	<u>+</u>	±	
	<u>+</u>	±	
	<u>+</u>	±	
	±	±	
	. ±	<u>+</u>	
	<u>+</u>	±	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	±	
	±	±	
	<u>1</u> 1	<u>‡</u>	
	<u>±</u>	<u>+</u>	

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a R Hyma -10-

K-1004-B-114, RC Issued_ Type of Sample ater

Mr. Gorman Hill

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-4 W		10 ±	
HPX-5 ₩	<u>-</u>	8 <u>±</u>	
	÷	±	
	=	+	
	· =	<u>+</u>	
	=	<u>+</u>	
	÷	<u>±</u>	
	± 	±	
	±	<u>+</u>	
	<u>÷</u>	± -	
	= =	±	
	· <u>±</u>	<u> </u>	
	Ė	±	
	<u>±</u>	±	
	+	±	
	-	<u> </u>	
	<u>+</u>		
	±	+	
	. ±	±	
	±	<u>1</u>	
	±	±	
	±	<u>+</u>	
	±	<u>+</u>	

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APPROVED: AR Flynn -11-

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 9-22-61

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
HP-351 W	±	2232 _±	Per 100 ml.
	±	<u>+</u>	
	+-	<u>+</u>	
	÷	<u>±</u>	
	<u> </u>	±	
	=	<u>+</u>	
	±	<u> </u>	
	<u>+</u>	<u>±</u>	
	<u>+</u>	<u></u>	
	<u>±</u>	<u>+</u>	
	± ·	±	
	<u> </u>	±	
	±	<u>+</u>	
	+	<u> </u>	
	<u>±</u>	<u>±</u>	·
	<u> </u>	<u>±</u>	
	<u>±</u>	<u>‡</u> .	
	<u> </u>	±	
	土	±	
	±	±	
,	±	±	
	‡	<u>±</u>	

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APPROVED: AR Flynn

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 9-13-61

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
#P-350 W	± ±	2388 ±	Per 100 ml.
	±	<u>±</u>	
	<u></u>	<u>+</u>	
	±	±	
	±	±	
	<u>+</u> .	±	
	<u>+</u>	<u>±</u>	
	<u>+</u>	±	
	± .	±	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	<u>+</u>	
	4	±	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u> </u>	
	<u>±</u>	<u>±</u>	
	± ±	± ±	
	± ±	<u>+</u>	
	±	±	
	<u>+</u>	<u>±</u>	
1	<u>±</u>	<u>+</u>	

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-13-

APPROVED: a R. Hymn

File No.	K-1004-B-114, RC	
Issued	9-1-61	
Tune of So	umple Water	

TO: Mr. Gorman S. Hill

Sample Number	Alpha Cts/min.	Beta Cts/min.		Remar	ks
HPX-lol W	±	<u>±</u>	No	Au 198	detected
HPX-102 V	± ±	<u> </u>	11	11	11
HPX-103 W	<u> </u>	<u>+</u>	11	11	1t
HPX-104 W	±	<u>±</u>	11	11	11
HPX-105 W	±	<u>±</u>	11	11	11
EPX-106 W	Ė	<u>+</u>	11	tt	11
HPX-107 M	<u>±</u>	<u>÷</u>	11	11	11
HPX-108 W	<u>.</u>	±	11	11	17
HPX-109 W	±	±	tt	11	17
	±	+			
	±	±			
	<u>±</u>	±			
	±	<u>±</u>			
	+	±			
	<u>+</u>	±			
	<u> </u>	±			
	±	<u>+</u>			
	<u>+</u>	<u>.</u>			
	±	±			
	±	±			
	±	<u>±</u>			
	±	±			
	±	±			

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-14-

APPROVED: AR Hynn

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC
Issued 9-1-61
Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-349 W	±	24,798 <u>+</u>	Per 100 ml.
	<u> </u>	<u>+</u>	
	<u> </u>	<u>±</u>	
	主	<u> </u>	
	<u>±</u>	±	
	<u>‡</u>	<u>+</u>	
	<u> </u>	±	
	±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	±	
	· <u>+</u>	<u>±</u>	
	+	<u>+</u>	
	<u>+</u>	1	
	土	±	
	<u>:</u>	<u>+</u>	
	±	<u>+</u>	
	<u> </u>	<u>±</u>	
	±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	±	±	
	<u>±</u>	±	
	±	<u>±</u>	

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- 75

APPROVED: UR Flynn



File No.	K-1004-B-114	, RC
Issued	8-24-61	
Type of So	umple Water	-

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-348 W	±	5031 ±	Per 100 ml.
	土	<u>±</u>	
	±	±	
	<u>±</u>	±	
	±	<u>±</u>	
	+	±	
	±	<u>+</u>	
	±	±	
	<u>+</u>	<u>+</u>	
)	±	<u>+</u>	
	±	<u>±</u>	
	· ±	<u>+</u>	
	±	<u>±</u>	
	±	±	
	±	<u>±</u>	
	<u>+</u>	±	
	±	<u>+</u>	
	<u>±</u>	±	
	<u>±</u>	±	
	· <u>+</u>	±	
	±	<u>±</u>	
	±	±	
	<u>±</u>	<u>+</u>	

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APPROVED: OR Flynn

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File No. K-1004-B-114, RC

Issued 8-15-61

Type of Sample water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-347 W	<u>±</u>	118,802	Per 100 ml.
	±	<u>±</u>	
	<u></u>	<u>±</u>	
	±	<u>±</u>	
	<u> </u>	<u>±</u>	
	<u>-</u>	<u>±</u>	
	<u>+</u>	±	
	‡	<u>+</u>	
10:02	±		
3	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
; j	· ±	+	
2	<u>±</u>	<u>+</u>	
	<u>±</u>	<u> </u>	
	<u>+</u>	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	<u>+</u>	
	±	<u>+</u>	
	<u>+</u>	±	
	±	±	
	<u>+</u>	<u>+</u>	
	±	±	

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J. J.

RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 8-8-61

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-346 W	±	26,302	Per 100 ml.
	<u>.</u> 	<u>±</u>	
	± ±	±	
	±	<u>±</u>	
	<u>-i-</u>	<u>±</u>	
	2	<u>+</u>	
	<u>+</u>	Ė	
	<u>±</u>	±	
	<u>±</u>	<u> </u>	
	±	<u>+</u>	
	±	±	
	· ±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	±	<u>±</u>	
···	<u>±</u>	<u> </u>	
	<u>±</u>	±	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	±	±	
	±	±	
	±	±	
,	±	±	

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- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

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PROVED: a R Flynn

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File	No.	K-lo	04-B-114,	RC
		8-2-	61	
Type	o f	Sample_	Water	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-345 W	±	37,459±	Per 100 ml.
	<u> </u>	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	±	
	‡ :	<u>+</u>	
	±	±	
	±	±	
	<u>±</u>	<u></u>	
	±	± -	
	±	<u>+</u>	
	· ±	<u>+</u>	
	<u>+</u>	<u>+</u>	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	; <u>÷</u>	± -	
	<u>+</u>	±	
	<u>±</u>	<u>+</u>	
	±	±	
	<u>±</u>	±	
	<u>+</u>	±	
	<u>±</u>	±	
	±	±	

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File No. K-1004-B-114, RC

Issued 7-26-61

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
HP-344 VI	<u>+</u>	90,548±	Per loc ml.
	<u> </u>	<u>+</u>	
	±	<u>+</u>	
	±	<u>±</u>	
	<u>+</u>	±	
	<u>±</u>	<u>+</u>	
	<u> </u>	<u>±</u>	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>+</u>	±.	
	· ±	<u>+</u>	
	<u>+</u>	<u>+</u>	
	<u>+</u>	±	
	土	<u>+</u>	
	<u>+</u>	<u>+</u>	
	土	<u>+</u>	
	<u>+</u>	<u>+</u>	
	±	±	
	±	±	
	±	±	
	±	<u>±</u>	
)	1		

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APPROVED: AR Hymn

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File No.	K-1004-B-114, RO	C
Issued	7-21-61	
Type of Sa	** 1	

TO:	Mr.	Becher	

Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
HP-343 W	±	208,06€	Per 100 ml.
	<u> </u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	±	±	
	<u>+</u>	<u>+</u>	
	<u></u>	<u>+</u>	
	±	±	
	±	±	
	±	+	
	±	±	
	±	±	
	· <u>+</u>	<u>±</u>	
	±	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	<u> </u>	<u>±</u>	
	<u>+</u>	±	
	<u>±</u>	±	
	<u>+</u>	+	
	±	土	

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APPROVED: AR Flynn

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m. M. Bicher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-342-15	±		-1
HT-34X-13		32,6±56	per 100 ml.
	· ±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	<u>±</u>	±	
	<u>+</u>	±	
	±	±	
	±	±	
	<u>+</u>	<u>+</u>	
	±	±	
	· ±	<u>+</u>	
	±	<u>+</u>	
	<u>±</u>	±	
	±	<u> </u>	
	±	<u>±</u>	
	±	<u>±</u>	
	±	<u>+</u>	
	±		
·		± .	
	±	<u>±</u>	
	±	±	
	±	±	
,	<u>±</u>	±	

File No. 1-1004B-114PC Issued 7-7-61 Type of Sample water

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TO: Mr. Bucher

File	No	K 100	148-	114	R.C	
Issue	ed	6-	20 -	61	<u> </u>	
		Sample			<u> </u>	

Alpha Beta Sample Remarks Cts/min. Cts/min. Number P3410 61.606 土 ± <u>+</u> ± \pm \pm \pm ± ± ± \pm

- 1. The limit of error at the 95% certainty level has been estimated from the precision of control samples.
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APPROVED: a R. Flynn

Type of Sample_

TO: Mr. Beoher

TO: ////	peone		•
Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
HP340W	±	31,0±70	Per 100 ml
	<u> </u>	<u> </u>	
	±	<u>.</u> ±	
	Ì	<u>+</u>	
	±	±	
	<u>‡</u>	<u>+</u>	
	±	<u>±</u>	
	<u> </u>	±	
	<u>±</u>	<u></u>	
	<u>+</u>	<u>+</u>	
	<u> </u>	±	
	· <u>±</u>	<u>+</u>	
	<u>+</u>	<u>+</u>	
	<u> </u>	Ė	
	1	<u>+</u>	
	<u>±</u>	-1- -1-	
	<u>+</u>	±	
	±	±	
	<u>+</u>	±	
·	<u>±</u>	±	
	±	±	
	±	<u>+</u>	
	<u>±</u>	<u>.</u>	

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File No. K-1004-B-114, RC

Issued 5-31-61

Type of Sample Water

To: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min//oc	ml Remarks
HP-339W	±	46,130	
	<u>±</u>	±	•
	±	<u>+</u>	
	±	<u>±</u>	
	<u>+</u>	±	
	±	±	
	±	<u>±</u>	
	± `	±	
	±	±	
	±	<u>+</u>	
	±	±	
	. ±	<u>+</u>	
	<u>±</u>	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	±	<u>±</u>	
	<u>±</u>	±	
	±	±	
	±	±	
	±	±	

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-25-

APPROVED: UR Hymn



TO: JM Bicker

File No. K-/CC 4 B-//4, K Issued 5-/C-6/ Type of Sample 7, atc.

10:_	1166	Decker		
S N	ample umber	Alpha Cts/min.	Beta Cts/min.	Remarks
H) -337W	±	43,1=34	ples 100 ml
` <i>H.f</i>	2338W	<u>±</u>	77, ±46	per 100 m (
		±	, <u>+</u>	,
_		<u>±</u>	<u>±</u> _	
		<u>+</u>	<u>±</u>	
		±	<u>+</u>	
	:	±	<u>±</u>	
		<u>±</u>	土	
	·	<u>±</u>	<u>±</u>	
		±		
_		土	<u>+</u>	
		· <u>±</u>	<u>+</u>	
		<u>±</u>	±	
		<u>+</u>	<u>±</u>	
		<u>+</u>	<u>+</u>	
		±	<u>+</u>	
		±	<u>+</u>	
		<u>±</u>	<u>+</u>	
		<u> </u>	#	
<u> </u>		± .	±	4
<u> </u>		±	<u>±</u>	
		<u>±</u>	<u>±</u>	
		<u>±</u>	.L.	

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APPROVED: a. R. J. Synn

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Type of Sample Wall

10: ///- 4			
Sample Number	Alpha Sol Cts/min.	Cts/min.	Remarks
HP-336W	<u>±</u>	42,746	per 100 ml.
,	<u> </u>	, ±	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	<u>+</u> .	±	
	±	±	
	±	±	
	<u>±</u>	<u>+</u>	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	, <u>±</u>	<u>±</u>	
	<u>+</u>	<u>+</u>	
	<u>+</u>	±	
	±	<u>±</u>	
	土	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	<u>±</u>	
	±	<u>±</u>	
	±	±	
	<u>+</u>	±	
	±	±	
	±	±	

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File No.	K-100	+-B-114,	RC
Issued_	4-19-6	51	
	Sample		

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
IP-333 W	<u>±</u>	66,116 <u>+</u>	Per 100 ml.
HP-334 W	±	49,666±	Per 100 ml.
HP-335 W	<u>±</u>	47,085±	Per 100 ml.
	<u>+</u>	<u>±</u>	
	±	<u>±</u>	
	±	+	
	±	±	
	<u>±</u>	±	
	±	±	
	±	<u>+</u>	
	<u>+</u>	<u>±</u>	
	· <u>±</u>	±	
	±	<u>±</u>	
	<u>+</u>	±	
	±	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	±	
	<u>+</u>	±	
	<u>+</u>	<u>+</u>	
	±	±	
	±	<u>+</u>	
****	±	±	

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APPROVED: aR Flyna



File	No.	K-1004-B-114,	RC	
Issue		3_30_61		
		Sample Water		

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-332W	<u>±</u>	57 , 780 <u>+</u>	Per 100 ml.
	±	± ±	
	±	±	
	±	<u>+</u>	
	±	<u>±</u>	
	<u>+</u>	±	
	<u>+</u>	<u>±</u>	
	<u>+</u>	±	
	<u>±</u>	<u>+</u>	
	±	<u>+</u>	
	±	<u>+</u>	
	<u>±</u>	<u>+</u>	
***************************************	<u>+</u>	<u>±</u>	
· · · · · · · · · · · · · · · · · · ·	+	<u>±</u>	
	+	<u>±</u>	
	<u>±</u>	±	
	±	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>+</u>	
		±	
	±	±	
	±	<u>±</u>	
	±	<u>±</u>	

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APPROVED: UR Flynn



File No. K-1004-B-114, RC

Issued 3-24-61

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
P-331-W	<u>+</u>	46,473 <u>±</u>	Per 100 ml.
	<u>±</u>	±	
	<u>+</u>	±	
	Ì	<u>±</u>	
	±	, ±	
	<u>÷</u>	<u>+</u>	
	主	±	
	<u>±</u>	±	
	<u>+</u>	<u></u>	
	±	<u>+</u>	
	Ė	±	
	· ±	<u>+</u>	
	<u>‡</u>	<u>+</u>	
	±	<u> </u>	
	<u>±</u>	<u> </u>	
	<u>±</u>	<u>+</u>	
	±	<u>±</u>	
	<u>±</u>	±	
	<u>+</u>	<u>±</u>	
	±	<u>+</u> .	
	±	±	
	±	<u>+</u>	
	±	±	

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APPROVED: a P Flynn

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File No. K-1004-B-114

Issued 3-24-61

Type of Sample Water from Underground

Tanks at K-1004-J

TO: Mr. S. A. Kingsbury

Sample Number	XXXXXX XXXXXXXXX	A NEXIM XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Remarks
Inner Tank	0.815 <u>millim</u>	icrogram Pu/ml	. or
	0.05 µc/lit	er or ±	
	0.8 ppb. Pu	relativ <u>e</u> to wt	. of water
	<u>±</u>	<u>±</u>	
Outer Tank	0.001 millim	crogram Pu/ml	. or
	0.00006 ug/l	ter or [±]	
	0.001 ppb. P	u relative to	wt. of water
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u>+</u>	
	±	<u>+</u>	
	±	±	
	· ±	<u>±</u>	
	, ±	<u>+</u>	
	<u>+</u>	<u>+</u>	
	±	±	
	<u>±</u> .	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	<u>+</u>	±	
	<u>±</u>	±	
	±	±	
	±	±	
-	±	+	

- The limit of error at the 95% certainty level has been estimated from the precision of control samples.
- 2. The alpha counting rates have been corrected to 50% geometry by comparison of results obtained by counting unaltered uranium with the published alpha specific activity.
- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

-31-

APPROVED: a R Flynn



File No. K-1004-B-114, RC Issued 3-23-61 Type of Sample water

Mr. Becher

MIL. Deci			
Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-330W	±	55 , 20 <u>9</u>	Per 100 ml.
	±	<u>±</u>	
	±	±	
	±	±	
	±	±	
	<u>+</u> ·	±	
	±.	±	
	±	<u>+</u>	
	<u>+</u>	土	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	· ±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	<u>+</u>	主	
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	±	<u>±</u>	
	<u>±</u>	±	
,	<u>±</u>	±	
	<u>+</u>	<u>+</u>	,
	±	±	
	±	±	
	±	<u>±</u>	

- 1. The limit of error at the 95% certainty level has been estimated from the precision of control samples.
- 2. The alpha counting rates have been corrected to 50% geometry by comparison of results obtained by counting unaltered uranium with the published alpha specific activity.
- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

APPROVED: QR Flynn

File No. K-1004-B-114, RC

Issued 3-15-61

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-330	±	55,20 <u>9</u>	Per 100 ml.
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	<u>±</u>	<u> </u>	
	<u>±</u>	±	
	<u>±</u>	±	
	<u>‡</u>	<u>+</u>	
	<u>+</u>	<u>±</u>	
	<u>±</u>	±	
	±	±	
	±	±	
	<u>.</u> ±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	<u> </u>	
	土	<u>±</u>	
	<u>±</u>	<u> </u>	
	±	±	
	<u>±</u>	±	
	<u>±</u>	±	
	<u>+</u>	<u>±</u>	
	±	±	

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mu

-33-

APPROVED

File No. K-1004-B-114, RC
Issued 3-8-61
Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP - 329	±	21,046 ±	Per 100 ml.
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>+</u> .	<u>±</u>	
-	±	±	·
	±	±	
	±	±	
	± .	±	
	±	±	
	<u>+</u>	±	
	<u>±</u>	±	
	±	±	
	±	<u>+</u>	
	±	±	
	<u>+</u>	±	
	<u>±</u>	±	
	±	±	
-	±	±	
	±	±	
	±	±	

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nu

APPROVED: AR Flynn



File	No.	K-100	+-B-114,	RC	
Issue	ed	3-7- 6	1.		
		Sample			_

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-328	±	74 , 892±	Per 100 ml. water
	±	±	
	<u>+</u>	±±	
	±	±	
	±	<u>±</u>	
	±	±	
	<u>+</u>	±	
· · · · · · · · · · · · · · · · · · ·	±	±	
	±	<u>±</u>	
	±	±	
	<u>±</u>	±	
	<u>±</u>	<u>+</u>	
	±	±	
	±	±	
	<u>±</u>	±	
	±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	±	±	
	±	±	
	±	±	
	±	±	
<u> </u>	±	±	
	±	±	

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APPROVED: AR Flynn

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File No. K-1004-B-114, RC

Issued 2-20-61

Type of Sample Water

TO: Mr. Becher

TO: Mr. Bech	er		_
Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
HP-327 W	<u>+</u>	103,829	Per 100 ml. water
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	<u> </u>	<u>±</u>	
	±	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	±	
	±	±	
	±	<u>+</u>	
	±	±	
	±	±	
	±	<u>±</u>	
	<u>±</u>	±	
	<u>+</u>	<u>±</u>	·
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	+	
	±	<u>±</u>	
	±	±	
	±	±	
	±	<u>±</u>	
	±	±	
	±	<u>±</u>	

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APPROVED: aR Flynn

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File No	K-100	4-B-114,	RC
File No.	2-14-	61	
Type of	Sample	Water	

To: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-326	±	52,480_	Per 100 ml. wate:
	<u>±</u>	±	
	±	<u>±</u>	
	<u>+</u>	±	
	<u>±</u>	±	
	<u>±</u>	±	
	±	±	
	<u>+</u>	±	
	<u>+</u>	±	
	±	±	
	±	<u>±</u>	
	±	±	
		±	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	·
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	

- 1. The limit of error at the 95% certainty level has been estimated from the precision of control samples.
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- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

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APPROVED: AR Flynn

File No. K-1004-B-114, RC
Issued 1-31-61
Type of Sample Water

TO: Mr. Becher

ro: Mr. Be	CHEI		
Sample Number	Alpha Cts/min.	Béta Cts/min.	Remarks
HP-325	<u>±</u>	80,429	Per 100 ml.
	±	±	
	<u>+</u>	<u>±</u>	
	±	±	
	<u>+</u>	±	
	±	±	
	<u>+</u>	<u>±</u>	
	±	<u>+</u> .	
	±	±	
	±	<u>+</u>	
	<u>±</u>	<u>±</u>	
	±	±	
	±	±	
	±	± ~	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	<u>+</u>	
	±	±	

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APPROVED: arthur

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File No. K-1004-B-114, RC Issued ___ Type of Sample Water

Mr. Becher тΩ٠

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-324	±	57,520±	Per 100 ml.
	<u>±</u>	±	:
	±	±	
	±	<u>+</u>	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	±	
	±	±	
·		±	
	<u>±</u>		
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	± ±	
<u> </u>	±	±	
	<u>±</u>	±	
	±	±	

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File No. K-1004-B-114, RC

Issued 1-10-61

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
IP-323	<u>+</u>	99,775±	Per 100 ml.
	<u>±</u>	±	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	1 m
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	± .	
	±	<u>+</u>	
	±	±	
	±	±	
	<u>±</u>	±	
	±	±	
	±	±	
	<u>+</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	

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APPROVED: AR Flynn -40-

4

RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 12-29-60

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
₩ HP-322	±	74,812	Per 100 ml.
	±	±	
	±	<u>+</u>	
	<u>+</u>	<u>+</u>	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	<u>+</u>	<u>+</u>	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	±	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	±	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	±	<u>±</u>	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	

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APPROVED: AR Flynn -41-

TO: Mr. Becher

RADIOACTIVITY ANALYSIS REPORT

	File No. K-1004-B-114, RC
1112	Issued 12-12-60
	Type of Sample <u>Water</u>

Sample Alpha Cts/min. Number HP-319 ± HP-320 <u>+</u> \pm \pm \pm ± \pm <u>+</u> <u>±</u> ± \pm <u>+</u> ± \pm \pm \pm \pm

 \pm

±

±

±

 \pm

±

 \pm

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- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

APPROVED: and flynn -42-

File No.	K-1004-B-114, RC	
Issued_	10-6-60	
Type of	Sample Water	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-321	±	89 , 618±	per 100 ml.
	±	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	<u>+</u>	±	
	±	±	
	±	<u>±</u>	
	<u> </u>	±	
	±	±	
	±	±	
	<u>+</u>	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	±	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>		
	<u>±</u>	<u>±</u>	
	±	<u> </u>	
	<u>+</u>	<u>±</u>	
<u></u>	±	<u>±</u>	
	±	<u>±</u>	
•	±	±	

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APPROVED: aR Slynn -43-

File No. K-1004-B-114, RC Issued 11-2-60 Type of Sample Water

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-318	ı ±	73,184	Per 100 ml. wat
	±	±	
	±	±	
	<u>±</u>	<u>+</u>	
	±	±	
	<u>±</u>	±	
	<u>±</u>	±	
	<u>+</u>	<u>±</u>	
	±	±	
	±	<u>+</u>	
	<u>±</u>	+	
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u></u> ±	± ±	
	<u>±</u>	<u>±</u>	
	±	±	
	<u>+</u>	<u>±</u>	
	±		
·	±	<u>±</u>	
	±	±	
<u> </u>	±	±	
	±	±	

- 1. The limit of error at the 95% certainty level has been estimated from the precision of control samples.
- 2. The alpha counting rates have been corrected to 50% geometry by comparison of results obtained by counting unaltered uranium with the published alpha specific activity.
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APPROVED: a R Flynn

File No. K-1004-B-122, RC
Issued October 31, 1960
Type of Sample Mud

TO: Gorman Hill

Sample Number	Alpha Cts/min./g.	Beta Cts/min.	Remarks],
681 W *	44 ±	<u>±</u>	*All samples	
682 W	3.4±	<u>+</u>	reported here are reruns.	
683 W	3.1±	±		
724 ज	8.7±	±		
726 W	10.4 ±	±		
	<u>±</u>	<u>±</u>		
	±	<u>+</u>		
	±	±		
	±	±		
	±	±		
	±	±		
	. ±	±		
	±	±	3.7	
	<u>+</u>	<u>±</u>		
	±	±	Sec.	
	<u> </u>	±	100 / 100	
	±	±		
	<u>±</u>	±		
	+	±		
	±	±		
	±	±		
	±	±		
•	±	±	,	

- certainty level has been estimated from the precision of control samples.
 - 2. The alpha counting rates have been corrected to 50% geometry by comparison of results obtained by counting unaltered uranium with the published alpha specific activity.
 - 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

HS Peter -45

APPROVED

File No.	K-1004-B-114, RC	
	10-27-60	
-	Sample Water	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-317	±	44,527±	Per 100 ml.
	±	<u>±</u>	
	±	<u>±</u>	
	± .	<u>±</u>	2/2/2
	±	<u>+</u>	,~
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	. ±	±	
	±	<u>±</u>	
	±	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
·	±	±	
	<u> </u>	±	
	<u> </u>	<u>±</u>	
	±	<u>+</u>	·
	±	±	
	<u>+</u>	<u>±</u>	
	±	<u>±</u>	

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- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

APPROVED: AR Thymu -46-

File No.	<u>K-1004</u>	-B-114,	RC	
Issued_	10-19-	60		
	Sample			

m. Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-316	±	169,086	Per 100 ml. water
	±	<u>+</u>	
	<u>±</u>	·±	
·	±	<u>+</u>	
	±	<u>+</u>	
	<u>+</u>	±	
	<u>±</u>	±	
	±	<u>+</u>	
	<u>±</u>	±	
	±	±	
	±	<u>±</u>	
	<u> </u>	<u>±</u>	
	± ±	<u>±</u>	
	<u>±</u>	<u>±</u>	
· · · · · · · · · · · · · · · · · · ·	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
-	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
V= 1.1	±	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	±	
	<u>±</u>	±	

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- The alpha counting rates have been corrected to 50% geometry by comparison of results obtained by counting unaltered uranium with the published alpha specific activity.
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APPROVED: approved: 47-

GA!

File No.K-1004-B-114, RC
Issued 10-5-60
Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
PK-ORGDP-31	5 ±	83,299±	Per 100 ml.
	±	±	
	<u>+</u>	<u>±</u>	
	土	±	
	<u>+</u>	±	
	<u>+</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	<u>±</u>	
	. ±	±	
	±	±	
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	±	±	
	±	<u>+</u>	
	<u>+</u>	<u>±</u>	
	±	<u>±</u>	
	±	<u>±</u>	
	±	±	
	<u>±</u>	±	
	±	±	

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APPROVED: AR Flynn

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File No.	K-1004-B-114,	RC	
Issued_	0-0-60		1
Type of	Sample Water		

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-ORGDP-3	<u>t</u>	4619±	Per 100 ml.
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	±	±	
	±	<u>+</u>	
	±	±	
	<u>±</u>	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	+	
	±	±	
	<u>±</u>	±	
	±	±.	
	±	±	
	±	±	
	±	<u>±</u>	
	<u>±</u>	±	
	<u>+</u>	<u>+</u>	
	±	<u>±</u>	

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APPROVED: approved: 49-

File No	. <u>K-1</u> 00	4-B-114,	RC
Issued_	8-29-6	6 0	
Type of		Water	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-CRGDP	3/3(£)	12,301±	Per 100 ml.
	±	±	
	±	±	date inform
	±	±	
	<u>±</u>	±	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	±	<u>±</u>	
)	±	±	
	±	<u>±</u>	
	<u></u> <u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	<u> </u>
	±	<u>±</u>	
	<u>±</u>	±	
	±	<u> </u>	
	<u>+</u>	<u>±</u>	
	±	<u> </u>	
	<u> </u>	±	
	±	±	
	±	± ±	
	<u>±</u>	<u>±</u>	
•	±	±	

- 1. The limit of error at the 95% certainty level has been estimated from the precision of control samples.
- 2. The alpha counting rates have been corrected to 50% geometry by comparison of results obtained by counting unaltered uranium with the published alpha specific activity.
- 3. The beta counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

APPROVED: approved: approved:

File No.	K-1004-B-114	, RC
Issued _	8-15-60	
	Sample Water	

TO: Mr. Becher

Sample Number	ASKAKKACKAK KAKAKKACHKAK	Beta Cts/min.	Remarks	
ORGDP-HPX-31	2 ±	2177 <u>+</u>	per 100 ml.	
	±	±		
	<u>±</u>	<u>±</u>	8/3/60	
	±	<u>+</u>	62	
	±	±	1427	
	±	±	1 3	
	±	<u>±</u>		
	±	±	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
	±	±	3)	
	±	<u>+</u>		
	±	±		
	<u>±</u>	<u>±</u>		
	±	±		
	±	±		
	±	±		
	±	<u>±</u>		
M d v 199	±	±		
	±	<u>±</u>		
	±	±		
	±	±		
	±	<u>±</u>		
	±	±		
	±	±		

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- 3. The betts counting rates have been corrected to 100% geometry by comparison of results obtained by counting unaltered uranium with the published specific beta activity of normal uranium.

APPROVED: approved: approved: -51-

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 7-27-60

Type of Sample Water

TO: Mr. Becher

Sample Number	rknkx Xxxxxxx	Beta Cts/min.	Remarks
ORGDP-HPX-	•}1 <u>1</u> ±	4430±	per 100 ml.
	±	<u>+</u>	
	<u>±</u>	±	1/20/60
	<u>±</u>	±	
	±	±	
	<u>+</u>	<u>+</u>	
	±	±	
	<u>±</u>	±	
	<u>±</u>	±	
	±	±	
	<u>±</u>	±	
	. ±	<u>±</u>	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
· ·	<u>+</u>	±	
	<u>±</u>	±	
	<u>±</u>	<u> </u>	
	<u>±</u>	<u>±</u>	
	±	土	
	±	±	
	±	±	
	±	±	
	±	±	

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- 400 g

APPROVED: a R Flynn -52-

File No.	K-1004-B-114	, RC
Issued	7-21-60	
Type of S	ample Water	•

TO:	$\mathtt{Mr}.$	Becher	

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-ORGDP 310	±	5792 ±	7/7/40
	<u>±</u>	<u>+</u>	/ '/
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	±	±	
	±	±	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	<u> </u>
	±	±	
	<u>.</u> ±	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	<u>±</u>	
	± ±	±	
	<u>±</u>	<u>±</u>	
	<u> </u>	±	
	<u> </u>	±.	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	

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APPROVED: AR Flynn

-53 –

File No. K-1004-B-114, RC

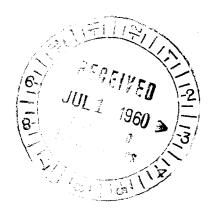
Issued 6-30-60

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
PX-ORGDP-309	±	12,095 ±	Per 100 ml.
	±	土	(date 3)
	<u>+</u>	<u>+</u>	
	<u>±</u>	±	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	±	<u>±</u>	
	±	<u>±</u>	
	±	±	
	±	<u>±</u>	
	±	±	
	<u>+</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	<u>±</u>	±	
	±	±	
	±	±	
	±	±	
	±	<u>±</u>	

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APPROVED: A R. Flynn -54-

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 6-16-60

Type of Sample Water

		~ 40/60	
Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPX-ORGDP-3C	CYS/min-		Per 100 ml.
	± (CV//)	NITTE	Per 100 ml. 6/7/60
	<u>+</u>	±	
	±	<u>+</u>	
	<u>+</u>	±	
	<u>+</u>	±	
	±	<u> </u>	
	<u>±</u>	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>.</u> ±	<u>±</u>	
	±	±	
	<u>+</u>	<u>±</u>	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±±	±	
·	± .	<u>±</u>	
	±	±	
	± ±	± +	
	±	± ±	
	± (±	± ±	

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PPROVED: A. F. + Lynn

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 6-6-60

Type of Sample Water

To: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
PX-ORGDP-30	7 ±	4795 <u>+</u>	per 100 ml.
	±	±	
	<u>+</u>	±	5/23/60
	<u>±</u>	<u> </u>	
	±	±	<u> </u>
	±	±	
	<u>±</u>	4	1
:	<u>+</u>	<u>+</u>	N - 22
	±	± 4 ₁ .	
	±	±	· -
	±	±	
	<u>+</u>	±	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	<u>±</u>	
	±	<u>±</u>	
	<u>±</u>	±	
	<u>±</u>	±	
	±	<u>±</u>	
	±	±	
	<u>+</u>	±	
	±	±	
	±	±	

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APPROVED: aR Flynn -56-

File No. M-1004-B-114, RC

Issued 5-12-60

Type of Sample Water

TO: Mr. Becher

Sample Number	KKKKK KKKKKKK	Beta Cts/min.	Remarks
HPX-ORGDP-30	6 _±	32 , 986 <u>.</u>	per 100 ml.
	±	±	4/18/60
	±	土	KE TO THE TOTAL OF
	<u>±</u>	± ·	
	±	±	18 13 (960)
	<u>+</u>	±	
	±	<u>±</u>	
	±	±	7 7001
	±	±	
	±	±	
	±	±	
	<u>.</u> ±	±	
	±	<u>+</u>	
	<u>±</u>	±	
	<u>+</u>	±	
	±	<u>±</u>	
	<u>±</u>	±	
	± .	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	

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APPROVED: ar Flynn -57-

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File No	K-1004B-114, PC	3
Issued_	4-13-60	
Type of	Sample Tuater	

ro: Mr Becher			- AFRID
Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPY-ORGI	P-305	65, 585	per 100 ml
	±	±	
	<u>±</u>	<u>+</u>	4/7/60
	±	<u>±</u>	
	<u>±</u>	±	
	±	±	
	±	±	
	<u>±</u>	±	
	±	±	
	<u>±</u>	±	
	<u>+</u>	±	
	<u>.</u> ±	±	
	±	±	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	<u> </u>	<u>±</u> .	
	±	±	
	<u>±</u>	±	
	±	±	
	±	±	
	±	±	

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC
Issued 4-7-60
Type of Sample Water

TO: Mr. Becher

Sample Number	ŘŘRŘY EXXXXX	Beta Cts/min.	Remarks
HP-ORGDP-304	<u>±</u>	39 , 346±	Per 100 ml. /
	±	<u>+</u>	
c c	<u>+</u>	±	3/28/60 =
	<u>±</u>	±	
	±	±	2
	±	<u>±</u>	
	±	<u>±</u>	
	±	<u>+</u>	
	±	±	
	±	±	
	<u>±</u>	±	
	, ±	<u>±</u>	
	±	<u>±</u>	
	±	<u>+</u>	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	·
	±	±	·
	土	<u>±</u>	
	±	<u>+</u>	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	

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APPROVED: APJlynn -59-

File	No	K-100	+-B-114,	RC	
Issue	ed _	K-100 ¹ 3-24-6	0		
Type	o f	Sample	Water		

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
P-ORGDP-303	±	63,26 <u>9</u>	Per 100 ml.
	±	\ \	3/2//60
	±	±	. /
	<u>+</u>	<u>+</u>	
	±	±	
	± .	±	
	±	<u>+</u>	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	±	
	±	<u>+</u>	
	. ±	±	
	±	<u>±</u>	
	±	± ±	
	±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
u.	±	±	
	±	±	
· · · · · · · · · · · · · · · · · · ·	±	±	
	±	<u>±</u>	
	±	<u>±</u>	

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APPROVED: AR Flynn -60-

File	No.		<u>+-</u> B-11 ⁴ ,	RC	
Issue		5-21-6	00		
Type	o f	Sample	Water		

TO: Mr. Becher

Sample Number	ZKSKKIKIK. X KAKKK	Beta Cts/min.	Remarks
HP-ORGDP-30	2 ±	91,142±	Per 100 ml.
	±	±	3/14/60
	±	±	, ,
	±	±	
	<u>+</u>	±	
	<u>±</u>	<u>+</u>	
	<u>±</u>	±	
	· ±	±	
	±	±	
	±	<u>+</u>	
1	±	<u>±</u>	
	<u>.</u> ±	±	
	±	±	<u></u>
	<u>±</u>	±	
	±	±	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	±	± ±	
	±	±	
	<u>±</u>	±	
	±	±	
1	±	±	

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APPROVED: ar Slynn -61-

File No. K-1004-B-114, RC
Issued 3-4-60
Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-ORGDP-301	<u>±</u>	28,859 <u>+</u>	Per 100 ml.
	±	±	Per 100 ml. 2/29/60
	±	±	/ /
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	±	±	
	±	±	
	<u>±</u>	±	
	±	±	
	±	± .	
	<u>.</u> ±	±	
	<u>±</u>	±	·
	<u>+</u>	<u>±</u>	
	±	±	
	<u>±</u>	±	
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	±	
	<u>+</u>	±	
	<u>+</u>	±	
	±	±	
	±	±	

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APPROVED: a R Flynn -62-

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RADIOACTIVITY ANALYSIS REPORT

File No. <u>K-1004-B-114</u>, RC

Issued <u>2-25-60</u>

Type of Sample <u>Water</u>

TO: Mr. Becher

Sample Number	AXBKU CXXXXXXX	Beta Cts/min.	Remarks
HP-ORGDP-300	±	607 ¹ +2 ±	Per 100 ml.
	±	<u>+</u>	
	<u>±</u>	±	2/17/60
	<u>±</u>	<u>+</u>	/ /
	<u>+</u>	<u>±</u>	
	<u>+</u> .	±	
	±	±	
	±	±	
	<u>±</u>	±	
	±	±	
	±	<u> </u>	
	<u>.</u> ±	±	
	±	<u>±</u>	
	±	<u>+</u>	
	<u>+</u>	<u>±</u>	
	±	土	·
	·±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	±	
	±	±	
l .	<u>±</u>	±	

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APPROVED: a R Hymn -63-

File No.		004-B-114,	RC
Issued_	2-24	- - 60	
Type of		Water	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP ORGDP 298	} ±	122,84 <u>3</u>	per 100 ml. water
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	1-28-60
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	<u>±</u>	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	±	±	
	±	±	
	±	±	

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APPROVED: a R Flynn -64

6-8991

RADIOACTIVITY ANALYSIS REPORT()

K-1001-B-111, RO 2-16-60 Issued_ Type of Sample Water

Mr. Becher TO:

: Mr.	Becher			_	•
Scaple Number	Alpho Cts/min.	Beta Cts/min.	DateResarks Time		1. The limit of error at th
Poplar Creek	ή -	53 ±	2-10-60 7:45 p	m.	mated from the precision
Popler Creek	±	76 ±	2-11-60 4:00 a	.	control adaples.
Peoplar Cree	k 3 ±	32 ±	2-11-60 10:00 a.	n.	2. The alpha counting rates
W No. 1	6 ±	26 ±	2-12-60		been corrected to 50% g by comparison of results
	+	<u>† · </u>			tained by counting unalt usualum with the publish
	Ortales	12 =			alpha specific activity.
shower	han !	1.) ±			
elem	上	, ±			 The beta counting rates : been segreeted to 100% g
ful	Mulataka	±			by comparison of results tained by counting unalt
<u> </u>	<u> پر</u>	±			uranium with the publish specific beta activity o
	ż	· ±			normal uranium.
	ż	±			
	±	±			
	<u> </u>	±			
···	±	±			
	±	±			
	ż	± .		This	document has been reviewed for
	±	±		cterali po Ul	ication and has been determined to
	±	±		14	ADC Signature
•	<u>t</u>	, ±			7/15/96
	`±	±	<u> </u>		Date
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	±	±		•	
	±	±	•		

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File No. K-1004-B-114, RC

Issued 2-16-60

Type of Sample Water

TO: Mr. Becher

O: MI.	pecuer.		
Sample Number	Alpha Cts/min.	Beta Cts/min.	Date Remarks Time
Poplar Creek	<u>!</u> ±	33 ±	2-10-60 7:45 p.
Poplar Creek	±	76 ±	2-11-60 4:00 a.
Peoplar Cree	k 3 ±	32 ±	2-11-60 10:00 a.
CW No. 1	б _±	26 ±	2-12-60
	±	±	
	Ortiles	17- ±	
howen	har y	1 \ ±	
len	to the	±	
T.W	ment.	±	
6	± ±	±	, «
	±	<u>+</u>	
	<u>+</u>	±	
	<u>. – </u>	±	
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This document has been reviewed for classification and has been determined to be UNCLASSIFIED.

ADC Signature

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APPROVED: AR Flynn

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RADIOACTIVITY ANALYSIS REPORT

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File No. K-1004-B-114, RC

Issued 2-12-60

Type of Sample Water

TO: Mr. Becher

10:			
Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HP-ORGDP-299	. i	7,288±	Per 100 ml.
	±	<u>+</u>	2/8/60
	<u>±</u>	<u>+</u> .	, ,
	±	+	
	±	<u>+</u>	
	<u>±</u>	<u>+</u>	
	<u>+</u>	±	
	±	<u>+</u>	
	±	<u>±</u>	
	±	±	
	±	±	
	. ±	±	
	±	<u>+</u>	
	±	<u>±</u>	
	<u>±</u>	±	
	1 1	<u>+</u>	
	±	<u>±</u>	
	±	±	
	<u>±</u>	±	
	<u>+</u>	±	
<u></u>	<u>±</u>	±	
	<u>±</u>	±	
•	±	±	

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APPROVED: Afflyss -66-

Heror tile

RADIOACTIVITY ANALYSIS REPORT

TO: Mr Becher

TO: ///	piener		
Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
Hp-97] ± v	<u>±</u>	
WP.98	5 ± /	±	
HP-102	j ± /	±	V.
HP-103] ± 1.	±	
HP-104	/ ± /	±	
HP-105	O ±	<u>+</u>	
HP-166	/ ± /	±	
HP-110	12 ± /	±	
HP-111	5 ± /	<u>+</u>	***************************************
49-112	5- ± V	<u>+</u>	
HP-113	5 ± 1	<u> </u>	
HP-114	6 ±	<u>±</u>	
	±	<u>±</u>	
	±	±	
	<u>+</u>	<u>+</u>	
	±	±	
	±	±	
	<u>+</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	

File No N-1004B-114, R.C.
Issued 1-29-60 Type of Sample Health Survey

- The limit of error at the 95% certainty level has been estimated from the precision of control samples.
- 2. The alpha counting rates have been corrected to 50% geometry by comparison of results obtained by counting unaltered uranium with the published alpha specific activity.
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APPROVED: a R Flynn -67-

who

RADIOACTIVITY ANALYSIS REPORT

File No. 1-100 4 B-114, R. 9
Issued 1-26-60
Type of Sample Water

TO: Mr Becher

Sample Number	- Alpha Cts/min.	Beta Cts/min.	Remarks
HP.ORDO,	2297	51,034	pu 100 ml.
	±	±	
	±	<u>±</u>	1/20/60
	±	±	' /
	<u>+</u>	±	
	±	<u>+</u>	
	±	±	
	±	±	
	±	<u>±</u>	
	±	±	
<u></u>	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	<u>±</u>	±	
	±	±	
	<u>±</u>	<u>±</u>	
	±	±	
	<u>+</u>	<u>±</u>	
1	±	±	

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APPROVED: al Flynn -68-

TO: Mr Becher

File No	K-1004	B-114.	Re
Issued_	1-21-	60	_
Type of	Sample 200	ter	

10: 7700 Bechel					
Sample Number	Alphα Cts/min.	Beta Cts/min.	Remarks		
Grass Beto	±	68,560	Per 100 ml		
	<u>±</u>	<u>±</u>			
	±	<u>±</u>			
	±	±			
	- 	± .			
	<u>.</u> ±	±			
	±	±			
	±	.±			
	±	±			
	<u>±</u>	±			
	<u>±</u>	±			
	<u>±</u>	±			
	±	±			
	<u>+</u>	±			
	<u>±</u>	±			
	±	±			
	±	±			
	<u>±</u>	±			
	±	±			
	±	±			
	±	±			
	±	±			
	±	±			

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APPROVED: a R Hymn -69-

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File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114, File No. X-10048-114,

TO: Mr Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks	
Sample Number Melled	nout	8' ±	10.00	
	±	±		
	<u>+</u>	±		
	±	±		
	<u>+</u>	±		
	±	<u>+</u>		
	±	<u>+</u>		
	<u>±</u>	±		
	±	±		
	±	<u>+</u>		
	<u>+</u>	<u>+</u>		
	<u>+</u>	<u>±</u>		
	<u>±</u>	±		
	<u>+</u>	<u>±</u>		
	±	±		
	<u>±</u>	±		
	<u>±</u>	±		
	<u>+</u>	<u>+</u>		
	±	<u>±</u>		
	±	<u>+</u>		
	±	±		
	±	±		
	±	±		

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APPROVED: a R Flynn -70-

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RADIOACTIVITY ANALYSIS REPORT

JAN 13 1980 >

File No. 1 - 1 0 0 4 B - 11 4 R Issued 1 - 11 - 6 9 Type of Sample Western

TO: Mr Bucker

10:7700	10: 1/VL Becker				
Sample Number	Alphar Cto/min:	Beta Cts/min.	Remarks		
HP-ORG	DP- 296	190,817			
	±	±	1/6/60		
	<u>±</u>	<u>+</u>	/ /		
	±	±			
	±	±			
	±	±			
	±	<u>±</u>			
	<u>+</u>	±			
	±	±			
	±	±			
ļ	<u>±</u>	±			
	±	±			
	±	·±			
	<u>+</u>	±			
	<u>+</u>	±			
	土	±			
	<u>±</u>	<u>+</u>			
	<u>±</u>	±			
	<u>+</u>	±			
	±	±			
	±	±			
	<u>+</u>	±			
	±	±			

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APPROVED: AR Flynn -71-

File No. K-1004 A-114

Issued 12-30-59

Type of Sample water

TO: Mr. Becher

Sample Number	Alpha Geo/min.	Beta Cts/min.	Remarks
4P000P-2	95 ± 12/16=/59	72,912	
•	12/16/59	±	
	<u>+</u>	<u>±</u>	
	<u>+</u>	±	
	±	±	
	±	±	
	<u>±</u>	±	
	<u>±</u>	±	
	± .	<u>+</u>	
	±	±	
	±	<u>+</u>	
<u> </u>	<u>.</u> ±	±	
	<u>±</u>	<u>+</u>	
	<u> </u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	±	<u> </u>	
	<u> </u>	<u> </u>	
	±	±	
	<u>±</u>	±	
	± ±	<u> </u>	<u> </u>
	<u>+</u>	±	
	±	±	

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File No. -Issued___ Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
P-0RGP-294	<u>+</u>	163,36 <u>9</u>	11/24/59
	±	±	
	· ±	±	
	<u>+</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	<u>.</u> ±	±	
	±	±	
-	<u>±</u>	±	
	±	<u>.</u>	
<u> </u>	±	±	
	土	±	
	±	±	
	±	<u>+</u>	
	±	±	
	±	±	
	±	±	
	±	±	

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RADIOACTIVITY ANALYSIS REPORT

File No.	K-1004-B-114, RC	
Issued	11-24-59	
Type of		

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
IPK-25-293	<u>±</u>	40,256±	10-30-59
	±	<u>±</u>	
	<u> </u>	<u>+</u>	
	±	<u>±</u>	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	±	
	±	<u>±</u>	
	±	±	·
	<u>.</u> ±	<u>+</u>	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	±	<u>±</u>	
	±	<u>+</u>	
	±	±	
	±	<u> </u>	
	±	±	
	±	±	
	±	±	
	±	±	

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APPROVED: af Hym -74-

who Chapter

RADIOACTIVITY ANALYSIS REPORT

File No. <u>K-1004-B-114, RC</u>

Issued <u>10-28-59</u>

Type of Sample <u>Water</u>

TO:Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
PK-25-292	<u>+</u>	3017 ±	10/6/59
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	<u>+</u>	<u>±</u>	
	<u> </u>	±	
	<u>+</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>+</u>	±	
	±	±	
	±	±	
	±	<u>±</u>	
·	±	±	
	±	±	
	±	±	
	±	±	
	±	<u>±</u>	
	±	±	WE

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File No N-10048-114, R. Issued 9-29-59
Type of Sample Wattr

TOM Becker

Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
HPK-25-291	<u>+</u>	5737	9-7-50
	±	±	
	<u>±</u>	±	
	±	<u>+</u>	
	<u>+</u>	±	
	±	±	
	<u>±</u>	±	
	<u>±</u>	±	·
	± ±	± ±	
·			
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u> </u>	± ±	
	± ±	<u>+</u>	
	±	<u>±</u>	
	±	±	
	土	±	
	±	<u>+</u>	
	<u>±</u>	±	
	±	±	
	±	<u>±</u>	
1	±	±	·

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APPROVED: a. R. 7 Gynn -76-

AN RIM

RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 9-9-59

Type of Sample Mater

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
K-25-290	<u>±</u>	9149 ±	8-18-59
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	土	±	
	<u>±</u>	<u>±</u>	
	<u>+</u>	±	
	±	±	
	<u>±</u>	<u>+</u>	
	±	±	
	±	<u>±</u>	,
	<u>.</u> ±	±	Í
·	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	<u>+</u>	-
	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	± ±	±	
	±	±	
	±.	±	

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APPROVED: <u>AR Hlynn</u>

Reural RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC
Issued 8-18-59
Type of Sample Water

TO: G. S. Hill

narkak Zarka	XAKARAKK XOXKAKAKKK	Beta Cts/min.	Remarks
From:	Time:±	±	Date
(- 1513	5:00 p _± m.	29 ±	8-14-59 AL FOR
11	9:00 p _± m.	19 ±	8-13-59 ALL SON
:1	1:00 a.m.	22 ±	8-15-59 4,4,000
••	5:00 a±m.	40 ±	
÷.	9:00 a _± m.	63 ±	" " " " " " " " " " " " " " " " " " " "
27	1:00 p _b m.	97 ±	II
71	5:00 p _± m.	43 ±	11
11	9:00 p _b m.	58 ±	71
ţ;	1:00 a±m.	25 [±]	8-16-59
17	5:00 a ₄ m.	30 ±	11
• 1	9:00 a _* m.	1;14 ±	11
'!	1:00 p.m.	88 <u>+</u>	17
11	5:00 p _* m.	71 ±	71
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
6911	±	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	±	±	
	±	±	
	±	±	
	±	±	

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APPROVED: A. R. J. Lynn -78an L. S. Luct A River

RADIOACTIVITY ANALYSIS REPORT

File	No.	K-1004-B-114,	RC
		8-12-59	
		Sample Water	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-25-289	7/28/59	5517	
	±	±	
	±	<u>+</u>	
	±	<u>+</u>	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	<u>±</u>	
	<u>+</u>	<u>+</u>	
	±	±	
	<u>.</u> ±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	±	<u>+</u>	
	±	±	
	±	<u>±</u>	
	±	±	-
	±	±	
	±	±	
 	±	<u>+</u>	

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APPROVED: a R Alynn -79-

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RADIOACTIVITY ANALYSIS REPORT

File No.	K-1004-	B -11 4,	RC	
Issued_	7 7 7 50			
Tune of		Water		

TO. Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-25-288	±	8978 ±	7/1/-7
	<u>±</u>	<u> </u>	/ /
	<u> </u>	<u>+</u>	
	<u> </u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	±	±	
	<u>±</u>	±	
	<u>±</u>	±	
	±	±	
	土	±	
	. ±	±	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	土	±	
	±	±	
	±	<u>+</u>	
	土	±	
	±	<u>±</u>	
	±	<u>±</u>	
	±	<u>+</u>	
	±	±	
	±	±	

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APPROVED: AR Flynn -80-

File No.	K-1004-B-122, F	RC
	7-17-59	
_	Sample Water	

TO: Mr. Schultz

10: 111 - 5011			
Sample Number	PotalAlpha T Cts XXXX .	otal Betα Cts %%%% .	% U-1255arks
к 1407 в	4125 <u>±</u>	198 ±	3.23
K - 1420 /	7841 ±	288 ±	5.04
	<u> </u>	<u>.</u> <u>+</u>	,
	<u>±</u>	<u>+</u>	Mark and Applications
	<u>±</u>	±	Alexandra H
	<u> </u>	±	·
		±	
	<u> </u>	±	
	±	<u>±</u>	
	±	· ±	
	±	±	
	<u>+</u>	±	
	±	<u>+</u>	
	<u>+</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	<u>+</u>	
	±	±	
	±	<u>+</u>	
	±	±	

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC
Issued 7-7-59
Type of Sample Mater

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-25-287	6/17/59	7107 ±	Per 100 ml. of wa
	/ / /	<u>+</u>	
	<u>±</u>	<u>+</u>	
	+	±	
	<u>+</u>	±	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	±	±	
	±	<u>±</u>	
	±	<u>+</u>	
	<u>±</u>	<u> </u>	
	±	±	
	±	<u>±</u>	
	± ±	<u> </u>	
	± ±	<u> </u>	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	<u>+</u>	±	
	<u>±</u>	±	
	±	±	
	±	±	

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APPROVED: a P. Flynn -82-

File No.	K-1004	-B-114,	RC
Issued_	6 - 16 - 5	i9	
Type of			•

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
PK-25 - 286	2 11 ± 1	6387 ±	
	±	<u>±</u>	
	<u>+</u>	<u>±</u>	
	<u>+</u>	±	
	±	<u>±</u>	
	±	<u>±</u>	
	±	<u>±</u>	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>.</u> ±	±	
	±	±	
	<u>±</u>		
	±	±	
	±	±	
	±	±	· · · · · · · · · · · · · · · · · · ·
	±	±	
	<u>±</u>	±	
	±	±	
	±	±	
	±	±	
	±	±	

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APPROVED: a.f. J. Snett

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File No.	K-1004-B-114, RC	
	6-15-59	
Type of	Sample Water	

TO: Mr. Becher

10: 111 0 200110			
Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
_{HPK} -25-285	6/1/59	11,464 <u>+</u>	
	, ±	±	
	<u>±</u>	±	
	±	<u>+</u>	
	±	<u>+</u>	
	±	<u>+</u>	
	<u>+</u>	±	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	±	±	
	<u>+</u>	±	
	<u>±</u>	±	
	<u>±</u>	<u> </u>	
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u> </u>	
	<u>±</u>	<u>±</u>	
	<u> </u>	<u>±</u>	
	<u>±</u>	± .	
	±	<u>±</u>	
	<u>±</u>	±	
	±	±	
	±	<u>±</u>	
-	±	±	

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APPROVED: a.R. + lynn

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC

Issued 5-22-59

Type of Sample Water

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
PK-25-284	5/14/57	16,385±	
	±	<u>±</u>	<u> </u>
	<u>±</u>	±	
	±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	±	
	±	<u>+</u>	
	±	±	
	<u>.</u> ±	±	
	±	<u>±</u>	
· · · · · · · · · · · · · · · · · · ·	<u>+</u>	±	
	±	±	
	±	±	
**	<u>±</u>	±	
	±	±	
	<u>+</u>	±	
	<u>±</u>	±	
The state of the s	±	±	
	±	±	
	±	±	

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APPROVED: AR Alynn

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File No.	K-1004-B-114	RC
	5 1 9 - 59	
Type of	- Tio + osa	

TO: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-25-283	+ +	6325 ±	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	<u>±</u>	±	
	±	±	gad to con-
	土	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>+</u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	±	±	
	<u>.</u> ±	<u>±</u>	
	±	<u>±</u>	·
	<u>+</u>	±	
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	±	<u>±</u>	
	±	±	

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APPROVED: AR Flynn -86-

File 1	٠ No	K-100	+-B-114,	RC
Issued	d	5-4-59	9	
		Sample		

TO: Mr. Becher

Sample Number	Alpha Cts/min,	Beta Cts/min.	Remarks
IPK - 25 - 282	4/23/59	4545±	
	*	±	•
	±	. <u>+</u>	
	±	<u>+</u>	
	±	±	
	±	<u>+</u>	
	±	±	
	±	±	
	±	±	
	±	±	
	±	±	
	<u>.</u> ±	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	<u>±</u>	<u>+</u>	
	±	±	
	±	<u>±</u>	
	<u>+</u>	±	
	±	±	
	±	<u>±</u>	

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APPROVED: aR Flynn -87-

r: 1.	N.	K-10	04-B-114,	RC	
File Issue		4-27	- 59		
		Sample	Water		

TO. Mr. Becher

Sample Number	Alpha Cts/min.	Betα Cts/min.	Remarks
HPK-25-280	4 (4± 1)	4631 ±	
HPK-25-281	4/1757	461 8 ±	
	±	<u>±</u>	
	±	±	
	±	±	
	±	<u>+</u>	
	±	<u>±</u>	
	± `	<u>±</u>	
	±	±	
	±	±	
1	±	<u>+</u>	·
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	<u>±</u>	±	
	土	<u>+</u>	
	±	<u>+</u>	
	±	±	
	<u>±</u>	<u>±</u>	
	±	<u> </u>	
	±	±	
	±	±	
	±	±	
	±	±	

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APPROVED: aR Thym -88-

TO. Mr. Becher

File No. K-1004-B-114, RC
Issued 4-8-59
Type of Sample Water

Sample Number	Alphα Cts/min.	Beta Cts/min.	Remarks
HPK-25-279	124/57	10,331 ±	Per 100 ml. water
	±	±	
	<u>+</u>	±	
	<u>+</u>	<u>±</u>	
4	<u>+</u>	±	
	±	±	
	<u>±</u>	<u>+</u>	
	± `	<u>+</u>	
	<u>±</u>	±	
)	±	±	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	<u>±</u>	<u>±</u>	
	±	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u> </u>	±	
	±	±	
	<u>±</u>	±	
	<u>±</u>	<u>+</u>	
	±	±	
	<u>±</u>	±	
	. ±	±	

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APPROVED: UP Flym

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RADIOACTIVITY ANALYSIS REPORT

File 1	۰. oV	K-100	+-B-114,	RC
Issue		Z (2)	59	
Type	of S	ample	Water	

TO. Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-25-278	3/11/59	13,664 <u>+</u>	Per 100 ml. water
	, , , ,	<u>±</u>	
	<u> </u>	±	
	<u>±</u>	<u> </u>	
·	±	±	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>±</u>	
	± '	±	
	<u>±</u>	± .	
	±	±	
	<u>±</u>	±	
	±	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	±	<u>±</u>	
	± ±	<u>+</u>	
	<u>±</u>	<u>±</u>	
	±	± ±	
<u> </u>	<u>+</u>	<u>±</u>	
	<u>+</u>	±	
	<u>±</u>	±	·
	±	±	
	±	±	

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APPROVED: aR Hynn

File No. K-1004-B-114, RC

Issued 3-17-59

Type of Sample Water

To: Mr. Becher

Sample Number	Alpha Cts/min.	Beta Cts/min.	Remarks
HPK-25-277	2/24/59	8240 ±	per 100 ml. water
	' '/ / ±	<u>±</u>	
	±	<u></u> ±	
	±	±	
	<u>±</u>	±	
	±	<u>±</u>	
	±	±	
	± ·	±	
	±	±	
	±	±	
	±	<u>+</u>	
	±	<u>+</u>	
	<u>+</u>	±	
	<u>+</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	±	<u>+</u>	
·	±	±	
	±	±	
	±	<u>±</u>	
	±	±	
	±	±	
	<u>+</u>	±	

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APPROVED: AR Hymn

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RADIOACTIVITY ANALYSIS REPORT

File No. <u>K-1004-B-114</u>, RC Issued <u>2-24-59</u>

Type of Sample Water

TO: Mr. Becher

Sample	Alpha	Beta	_ ,
Sample Number	Alpha Cts/min.	Cts/min.	Remarks
HPK-25-276	2/13/±59	13,950 <u>+</u>	
	± ±	±	
	土	±	
	±	±	
	<u>±</u>	<u>+</u>	
	±	<u>+</u>	
	±	<u>+</u>	
	<u>+</u>	<u>+</u>	
	<u>+</u>	<u>±</u>	
	±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	±	±	
	±	<u>±</u>	
	±	<u>+</u>	
	±	±	
	±	<u>+</u>	
	±	<u>+</u>	
	±	±	
	. ±	<u>±</u>	
	<u>±</u>	±	
	±	<u>±</u>	
	±	±	

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APPROVED: AR Hypnu

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RADIOACTIVITY ANALYSIS REPORT

File No. K-1004-B-114, RC Issued 2-10-59 Type of Sample Water

Sample Number	Alpha Cts/min.	Ct	Beta s/min.	Remarks
HPK-25-275	±	660	5 ±	1-29-59
	±		<u>+</u>	
	±		<u>+</u>	
	<u>±</u>		<u>±</u>	
	<u>±</u>		±	
	±		<u>+</u>	
	±		<u> </u>	
	±		±	
	±		<u>±</u>	
	<u>+</u>		± '	
	±		<u> </u>	
	. ±		<u>+</u>	
	<u>+</u>		<u>+</u>	
	<u>±</u>		<u>±</u>	
	<u>±</u>		±	
	±		<u>±</u>	
	<u>±</u>		<u>±</u>	
	<u>±</u>		<u>±</u>	
	<u>±</u>		<u>±</u>	
			<u>±</u>	
	<u>±</u>		±	
	±		<u>±</u>	
	±		±	

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APPROVED: AR Hynn

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RADIOACTIVITY ANALYSIS REPORT

File Nov. - 130 4 R-114 R

Issued - 54 - 59

Type of Sample Falce

TO: 11. 12. 12.

Sample Number	Alphα Cts/min.	Beta Cts/min.	Remarks
JAN-25-674		8260±	Per 100 ml water
	, ±	±	
	<u>+</u>	<u>±</u>	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>±</u>	
	<u>+</u>	<u>+</u>	
	± ·	±	
	±	±	
1	±	±	
	<u>±</u>	±	
	<u>±</u>	<u>±</u>	
	<u>±</u>	<u>+</u>	
	<u>±</u>	<u> </u>	
·	<u>±</u>	<u>+</u>	
	<u>±</u>	<u>±</u>	
	<u>±</u>	±	
	±	±	
	±	±	
	<u>±</u>	<u>±</u>	
	±	± ±	
	<u>±</u>	±	
	±	±	

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APPROVED: aR 3lynn

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